

CALFED PCT WORKSHOP**MARCH 22, 1996****GROUP 4 - Alternatives: C, E, F, H, I**

(NOTE: Alternative specifically referred to is indicated in bold)

SUGGESTED IMPROVEMENTS BASED ON INITIAL DISCUSSION OF ALL ALTERNATIVES

- Isolated facilities are of concern due to water quality impacts to NBA, CCWD, and in-Delta municipal users; Southern California users have more flexibility. **C +all alternatives with isolated facilities**
- Multiple diversion points will improved Sacramento River water quality by providing flexibility at low flow times. **C**
- Is 100k acre-feet of San Joaquin River flow adequate? **C E**
- Avoid damaging NBA sloughs (valued smelt habitat). **C**
- Focus on degraded areas or most easily restored areas? **E**
- Must decrease velocities in South Delta; extend North Delta improvements further into the Delta. **E**
- For ground water recharge component, must avoid hot spots of ground water contamination in San Joaquin Valley (i.e., Modesto, Madera). **E**
- All alternatives must change current San Joaquin River reverse flow scenario (via isolated facility).
- Define the habitat-fish linkage; there are problems by not being able to quantify fish improvements; there are more fish threats than wildlife
- For in-Delta storage components, indicate the change to water quality with proposal and how it differs from the Delta Wetlands proposal (e.g. mercury and organics-same with farming vs. storage only?; rice storage-any similar water quality concerns as with Delta? entrainment issues?). **H**
- Selected storage islands should avoid contaminated soils. **F**
- Key criteria for all alternatives is the ability to store during high flow times
- Peak flows providing flushing benefits downstream must be considered. **F**
- **I** may have the best ecosystem benefits and perhaps best flood control benefits
- Skim off the flood control portion of the existing reservoirs (e.g. Shasta, Oroville) and apply to new west side reservoirs. **I**
- Advantages of ship channel and Yolo Bypass components should be included. **I**
- Extend **I** south of Clifton Court to contribute to the 100k acre-feet of San Joaquin River flow.
- Storage at the top of the system may have the least benefit; but **I** may have the best economic benefit

3/25/96
HES

DISCUSSION OF ALL FIVE ALTERNATIVES USING EVALUATION FACTORS

(NOTE: Assumptions made for ranking analysis are indicated here)

Drinking and Recreational Water Quality

- Need clarification of where CCWD fits into geographical groups (add west Delta? include in South Delta or Exports?). Flip the percentages because exporters have more resources to deal with water quality problems (60% north Delta).
- Salinity (Bromide) is primary concern because of upcoming regulation changes.
- Known and monitored toxics are of minimal concern.
- TOC is still a big issue to Met
- **Assumption:** South Delta = Contra Costa Water District
North Delta = North Bay Aqueduct
- Pathogens the only way to reduce pathogens is to divert flow as far upstream on Sacramento River as possible; houseboats are a major contributor of pathogens
- Any alternative avoiding San Joaquin River and Delta pollutants is better?
- Bromide- big regulatory problem to address in future; expensive to deal with and it will limit utility treatment options; salinity from Bay is greater concern than San Joaquin River contributions.
- If CCWD taken out of South Delta, most of the water quality problems are reduced.
- **Assumption:** I must be hooked up to CCWD's 2 diversions (other South Delta drinking water diverters remain a problem)
- ppm/risks/etc. don't mean much
- If maintaining Suisun flows, water quality still impacted
- **Assumption:** Alternative with storage will improve flow (and therefore water quality benefits)
- **Assumption:** All alternatives must have storage
- E and F takes more water to maintain current flows due to spreading effect?
- TOC is function of ag drains - alternatives diverting further up on the Sacramento River will demonstrate improvement
- **Assumption:** Peat is managed. H
- Hard to tell if NBA TOC levels will change; CCWD may be neutral
- **Assumption:** Alternative with pollutant source controls and pollutant flow management, and storage along the way, will all have improvements to: turbidity, toxics, and nutrients.
- Stockton ship channel still experiences DO problems- All alternatives should address through the 100k acre-feet flow component
- South Delta water hyacinth problem is also a recreational water quality issue
- **Assumption:** Aesthetics not only includes algae and Taste & Odor concerns, but also submerged aquatic exotics like water hyacinth
- A separate performance measure is needed for recreational aesthetic quality

Agricultural and Industrial Water Quality

- Ind/ag water quality percentages slanted towards agricultural regions
- Bypassing Delta (via isolated facilities) decreases quality of water remaining for ag. (if no storage). E
- SDW Agency impacts greater (TDS, salts, boron) from all alternatives
- Connect Ag to west side canal to improve water quality. I
- Return flow salinity reapplied to ag is a greater problem with E because of the spreading which results in lower flows. (note: clarity is needed on this issue- group was confused as to whether E and F's habitat components result in a "spreading" of water across land via enlarged channels or wetland areas, thus increasing the quantity of carriage water needed to maintain current flows).
- Agricultural land buy out component will have **beneficial** impact (all three have 300k acres except I which has 70k acres)
- Focus on parameters of concern
- North and Central Delta water quality will not degrade with E
- **Assumption:** Stored water to be used to improve water quality for C, F, I; specific benefit to North and Central Delta
- Large storage benefits Western Delta. C, I

Reduce Water Supply Conflicts

-Exports

- Export (75%) vs. Delta (25%) percentages subjective
- Capability to move water more important to Delta users. Switch the 50% and the 35%.
- Big storage will do better. C, F, I
- Isolation facilities offer flexibility; carriage water requirements change between year types. C, H, I
- Conjunctive use (e.g. E) should be a basic element of all alternatives.
- **Assumption:** For rating of dry year conditions, it is assumed that conjunctive use is a part of all alternatives
- Average year not influenced by conjunctive use
- **Assumption:** Storage available during average years for use
- Essential elements of these alternatives are standing out for inclusion in all alternatives
- Multiple diversion locations are valuable to all alternatives with isolation conveyance
- If water available, year-round export may be allowed with I
- Fish kill potential influences rating of E

-Delta Dry Year Inflow

- **Assumption:** Keep Sacramento River flows the same (average) and use new storage for flows
- If more water stored south of Delta, then H storage can be beneficial (can be used in-Delta)
- F requires more Sacramento River flows to the detriment of rest of Delta flows

-Delta Average Year Inflow

- What are impacts from isolated facilities to downstream flows?
- Assumption: Average annual outflow the same, but low flows higher with storage. Must have storage to collect peak flows for minimal impacts.
- Value is timing of availability-storage and release
- Water would be available for Central Delta with F

-Opportunities for Delta Diversions

- Same issues for South Delta as identified under water quality for ag/industrial

Wetland/Upland Habitat**-Upstream: Wetland and Riparian**

- Value from core actions or environmental module overshadows alternatives
- Greater habitat benefits to riparian with I and F
- Assumption: I can release to wetlands
- Upstream wetlands enhancements should be essential element

-Delta Riparian

- Island habitat along levees beneficial in H
- Setback levees of E beneficial because of extent of improvement but not a big deal

-Delta Terrestrial and Non-tidal Wetlands

- Very similar characteristics
- Delta non-tidal wetland definition confusing (behind levees is terrestrial, channels are tidal if within "Delta")

Aquatic Habitat

(Note: rating charts were not filled out- refer to this text for evaluation)

- Conveyance of water through natural channels is NOT beneficial. I-best; H & C-second best; rest- no benefit
- Key issues with aquatic habitat: diversions, not enough water, operations patterns, pumps
- There may be other alternatives to consider such as use of Yolo Bypass (previously mentioned here). This new alternative is an intermediate level- not as extensive as I.
Key components:
 - capture seasonal flows in bypass
 - enhance habitat and restore to sort-of natural conditions
 - intake at Sutter Bypass

MISCELLANEOUS COMMENTS

- Rebuild islands concept issues:
 - stop subsidence with permanent flooding and allow regrowth
 - seismic event would wipe out improvements

- water on both sides of levees provides support to levees
- tule growth is low protein
- mosquitoes

- Must continue to maintain Rio Vista water quality flows